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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,585	01/21/2004	Stuart T. Smith	0026711.00007	4279

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EXAMINER

COZART, JERMIÉ E

ART UNIT	PAPER NUMBER
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3726

MAIL DATE	DELIVERY MODE
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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/761,585

Applicant(s)

SMITH ET AL.

Examiner

Jermie Cozart

Art Unit

3726

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) 7-19,21-31 and 34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,20,32,33 and 35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5, 20, 32, 33, and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by Amatucci et al. (US 6,467,761 B1).

Regarding **claim 1**, Amatucci discloses a small-scale positioning device comprising a fixed frame (206); a platform (202), movably attached to the fixed frame via at least one lever (203a, 203b); and a floating actuator (210) device, coupled between the at least one lever and the platform, that when activated generates a force on the platform (202) and an equal but opposite force on the at least one lever (203a, 203b), thereby controlling the position of the movable platform relative to the fixed frame. The floating actuator (210) is substantially free from direct constraint by the fixed frame (206). The actuator (212) is substantially free from direct constraint by the fixed frame (206) because the actuator (212) is indirectly connected to the frame (206) by a lever (not labeled, see FIG. 2).

Regarding **claim 2**, Amatucci discloses each of the at least one lever (203a) is coupled to the platform at a respective fulcrum (205a).

Regarding **claim 3**, Amatucci discloses each of the at least one lever (203a) is further pivotably connected to the platform via a respective flexure (211a), the flexure (211a) being separate from the fulcrum (205a).

Regarding **claim 4**, Amatucci inherently discloses that the floating actuator device (210) is of an automated type since the input force is generated for movement in the direction of the Y-axis of the moving stage by the actuator (210).

Regarding **claim 5**, Amatucci discloses the floating actuator device is a piezoelectric type (col. 2, lines 1-2).

Regarding **claim 20**, Amatucci discloses the platform (202) may be repositioned in only a single degree of freedom of motion.

Regarding **claim 32**, Amatucci discloses a method of positioning a platform (202) relative to a fixed frame (206) in a small-scale positioning device, comprising: providing a small-scale positioning device having a fixed frame (206), a platform (202) that is movably attached to the fixed frame via at least one lever (203a, 203b), and a floating actuator device (210), coupled between the at least one lever (203a, 203b) and the platform (202); activating the floating actuator device (210); and upon activating the floating actuator device (210), applying a force on the platform (202) and an equal but opposite force on the at least one lever (203a, 203b), thereby controlling the position of the movable platform (202) relative to the fixed frame (206). The floating actuator (210) is substantially free from direct constraint by the fixed frame (206). The actuator (212) is substantially free from direct constraint by the fixed frame (206) because the actuator (212) is indirectly connected to the frame (206) by a lever (not labeled, see FIG. 2).

Regarding **claim 33**, Amatucci discloses wherein controlling the position of the movable platform (202) relative to the fixed frame (206) includes controlling motion of the movable platform (202) relative to the fixed frame in one degree of freedom.

Regarding **claim 35**, Amatucci discloses wherein the step of providing a small-scale positioning device includes providing a small-scale positioning device (200) having at least one flexure (203a) coupled between the platform (202) and the fixed frame (206), the method further comprising: guiding the motion of the platform in one degree of freedom via the at least one flexure (203a).

See column 8, line 62 – column 9, line 38 and figure 2 for further clarification.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Amatucci et al. (US 6,467,761 B1) in view of Applicants' Admitted Prior Art (AAPA).

Amatucci discloses all of the claimed subject matter except for the piezoelectric actuator device including an actuator formed from a relaxor material.

AAPA discloses at page 1, paragraph [0003], that it is known for a piezoelectric actuator device to include an actuator formed from a relaxor material, and provide a relatively high amount of work while occupying a small volume.

Therefore, it would have been obvious to one having ordinary skill in the art at the invention was made to form the piezoelectric actuator device of Amatucci from a relaxor material, in light of the teachings of AAPA, in order to provide a device capable of producing high amount of work while occupying a small volume.

Response to Arguments

5. Applicant's arguments filed 5/14/07 have been fully considered but they are not persuasive.

Applicant argues that Amatucci does not disclose all floating actuator devices utilized being substantially free from direct constraint by the fixed frame.

In response, the Examiner maintains that with respect to FIG. 2 of Amatucci, the actuator (210) is substantially free from direct constraint by the fixed frame (206), and the actuator (212) is **free from direct constraint** by the fixed frame (206) because the actuator (212) is indirectly connected to the fixed frame (206) by a lever (not labeled, FIG. 2). This rationale is further supported by Applicant's interpretation at page 9 of response filed 5/14/07 wherein Applicant refers to "the primary floating actuator device is directly coupled to or disposed "on board" the platform on one side, without an intervening lever, and coupled to a lever on the other side". Therefore, it is clearly apparent from FIG. 2 that the actuators (210, 212) are not directly coupled to the fixed frame (206) and therefore free from direct constraint by the fixed frame.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jermie Cozart whose telephone number is 571-272-4528. The examiner can normally be reached on Monday-Thursday, 7:30 am - 6:00 pm.

8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on 571-272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



JERMIE E. COZART
PRIMARY EXAMINER

July 27, 2007